

**National Efficiency Standards and Specifications for  
Residential and Commercial Water-Using Fixtures and Appliances**



Fixtures and Appliances	EPA 1992, EPA 2005 (or backlog NAECA updates)		WaterSense® or ENERGY STAR®		Consortium for Energy Efficiency	
	Current Standard	Proposed/Future Standard	Current Specification	Proposed/Future Specification	Current Specification	Proposed/Future Specification
Residential Toilets	1.6 gpf <sup>1</sup>		WaterSense 1.28 gpf with at least 350 gram waste removal <sup>2</sup>		No specification	
Residential Bathroom Faucets	2.2 gpm at 60 psi <sup>3</sup>		WaterSense 1.5 gpm at 60 psi (no less than 0.8 gpm at 20 psi) <sup>4</sup>		No specification	
Residential Showerheads	2.5 gpm at 80 psi		No specification		No specification	
Residential Clothes Washers	MEF $\geq$ 1.26 ft <sup>3</sup> /kWh/cycle *No specified water use factor	Proposed to DOE Asst. Sec. jointly by AHAM and efficiency advocates to be effective in 2011 MEF $\geq$ 1.26 ft <sup>3</sup> /kWh/cycle WF $\leq$ 9.5 gal/cycle/ft <sup>3</sup>	ENERGY STAR (DOE) MEF $\geq$ 1.72 ft <sup>3</sup> /kWh/cycle; WF $\leq$ 8.0 gal/cycle/ft <sup>3</sup>	Proposed to DOE Asst. Sec. jointly by AHAM and efficiency advocates to be effective July 1, 2009 MEF $\geq$ 1.8 ft <sup>3</sup> /kWh/cycle WF $\leq$ 7.5 gal/cycle/ft <sup>3</sup>	<b>Tier 1:</b> MEF $\geq$ 1.80 ft <sup>3</sup> /kWh/cycle; WF $\leq$ 7.5 gal/cycle/ft <sup>3</sup> <b>Tier 2:</b> MEF $\geq$ 2.00 ft <sup>3</sup> /kWh/cycle; WF $\leq$ 6.0 gal/cycle/ft <sup>3</sup> <b>Tier 3:</b> MEF $\geq$ 2.20 ft <sup>3</sup> /kWh/cycle; WF $\leq$ 4.5 gal/cycle/ft <sup>3</sup>	

<sup>1</sup> EPA 1992 standard for toilets applies to both commercial and residential models.

<sup>2</sup> See WaterSense HET specification at [http://www.epa.gov/watersense/docs/spec\\_het508.pdf](http://www.epa.gov/watersense/docs/spec_het508.pdf).

<sup>3</sup> EPA 1992 standard for faucets applies to both commercial and residential models.

<sup>4</sup> See WaterSense specification for lavatory faucets at [http://www.epa.gov/watersense/docs/faucet\\_spec508.pdf](http://www.epa.gov/watersense/docs/faucet_spec508.pdf).

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Residential Dishwashers <sup>5</sup>	<i>Standard models:</i> $EF \geq 0.46$ cycles/kWh <i>Compact models:</i> $EF \geq 0.62$ cycles/kWh *No specified water use factor	New standards under development: DOE scheduled final action: March 2009; Stakeholder meeting held 4/27/2006  Proposed to DOE Asst. Sec. jointly by AHAM and efficiency advocates to be effective in 2010 <i>Standard models:</i> 355 kWh/year (.62 EF + 1 watt standby) $WF \leq 6.5$ gallons/cycle  <i>Compact models:</i> 260 kWh/year $WF \leq 4.5$ gallons/cycle	ENERGY STAR (DOE) <i>Standard models:</i> $EF \geq 0.65$ cycles/kWh <i>Compact models:</i> $EF \geq 0.88$ cycles/kWh *No specified water use factor	Proposed to DOE Asst. Sec. jointly by AHAM and efficiency advocates to be effective in 2009 <i>Standard models:</i> 324 kWh/year (0.68 EF + 1 watt standby) $WF \leq 5.8$ gallons/cycle  <i>Compact models:</i> 234 kWh/year $WF \leq 4.0$ gallons/cycle	<i>Standard models:</i> <b>Tier 1:</b> $EF \geq 0.65$ cycles/kWh; maximum 339 kWh/year <b>Tier 2:</b> $EF \geq 0.68$ cycles/kWh; maximum 325 kWh/year <i>Compact models:</i> <b>Tier 1:</b> $EF \geq 0.88$ cycles/kWh; maximum 252 kWh/year *No specified water use factor	In December 2006, CEE announced they will consider adding a water factor in future dishwasher specifications

DOE: Department of Energy  
EPA: Environmental Protection Agency  
EPA 1992: Energy Policy Act of 1992  
EPA 2005: Energy Policy Act of 2005

EF: energy factor  
ft<sup>3</sup>: cubic feet  
gal: gallons  
gpm: gallons per minute

gpf: gallons per flush  
kWh: kilowatt hour  
MEF: modified energy factor  
MaP: maximum performance

NAECA: National Appliance Energy Conservation Act  
psi: pounds per square inch  
WF: water factor

Updated Dec. 11, 2007

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Commercial Toilets	1.6 gpf <sup>6</sup>		No Specification <sup>7</sup>		No specification	
Urinals	1.0 gpf		No specification		No specification	
Commercial Faucets	2.2 gpm at 60 psi NOTE: Superseded by national plumbing codes (UPC and IPC) for public lavatories: 0.5 gpm maximum. <sup>8</sup> 0.25 gallons per cycle for metering faucets		WaterSense specification applicable to private lavatories (e.g. hotel room bathrooms) <sup>9</sup> 1.5 gpm at 60 psi (no less than 0.8 gpm at 20 psi)		No specification	

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Commercial Clothes Washers (Family-sized)	MEF $\geq 1.26$ ft <sup>3</sup> /kWh/cycle; WF $\leq 9.5$ gal/cycle/ft <sup>3</sup>	New standards under development: DOE scheduled final action: January 2010; Stakeholder meeting held 4/27/2006	ENERGY STAR (DOE) MEF $\geq 1.72$ ft <sup>3</sup> /kWh/cycle; WF $\leq 8.0$ gal/cycle/ft <sup>3</sup>	Proposed to DOE Asst. Sec. jointly by AHAM and efficiency advocates to be effective July 1, 2009 MEF $\geq 1.8$ ft <sup>3</sup> /kWh/cycle WF $\leq 7.5$ gal/cycle/ft <sup>3</sup>	<b>Tier 1:</b> MEF $\geq 1.80$ ft <sup>3</sup> /kWh/cycle; WF $\leq 7.5$ gal/cycle/ft <sup>3</sup> <b>Tier 2:</b> $\geq 2.00$ ft <sup>3</sup> /kWh/cycle; WF $\leq 6.0$ gal/cycle/ft <sup>3</sup> <b>Tier 3:</b> MEF $\geq 2.20$ ft <sup>3</sup> /kWh/cycle; WF $\leq 4.5$ gal/cycle/ft <sup>3</sup>	

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Commercial Dishwashers	No standard		ENERGY STAR (EPA) Water Consumption; Idle Energy: <i>Under counter:</i> Hi Temp: $\leq 1.0$ gal/rack; $\leq 0.9$ kW Lo Temp: $\leq 1.70$ gal/rack; $\leq 0.5$ kW <i>Stationary Single Tank Door:</i> Hi Temp: $\leq 0.95$ gal/rack; $\leq 1.0$ kW Lo Temp: $\leq 1.18$ gal/rack; $\leq 0.6$ kW <i>Single Tank Conveyor:</i> Hi Temp: $\leq 0.70$ gal/rack; $\leq 2.0$ kW Lo Temp: $\leq 0.79$ gal/rack; $\leq 1.6$ kW <i>Multiple Tank Conveyor:</i> Hi Temp: $\leq 0.54$ gal/rack; $\leq 2.6$ kW Lo Temp: $\leq 0.54$ gal/rack; $\leq 2.0$ kW		No specification	

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Automatic Commercial Ice Makers <sup>10</sup>	No standard	Effective <b>1/1/2010</b> : Energy and condenser water efficiency standards vary by equipment type on a sliding scale depending on harvest rate and type of cooling (see link to additional information at end of this table)	No specification	ENERGY STAR (EPA) Effective <b>1/1/08</b> : Energy and water efficiency standards vary by equipment type on a sliding scale depending on harvest rate. Water cooled machines excluded from Energy Star (see link to additional information at end of this table)	Energy and water (potable and condenser) standards are tiered and vary by equipment type on a sliding scale depending on harvest rate and type of cooling (see link to additional information at end of this table)	
Pre-rinse Spray Valves	Flow rate $\leq 1.6$ gpm (no pressure specified; no performance requirement)		No specification	Proposed ENERGY STAR specification abandoned after standard established in EPA 2005	No specification (program guidance recommends 1.6 gpm at 60 psi and a cleanability requirement)	

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Commercial Steam Cookers <sup>11</sup>	No standard		ENERGY STAR (EPA) <i>Electric:</i> 50% cooking energy efficiency; idle rate 400–800 Watts <i>Gas:</i> 38% cooking energy efficiency; idle rate 6,250–12,500 British thermal units/hour *No specified water use factor		<i>Electric:</i> 50% cooking energy efficiency; idle rate 400–800 Watts <i>Gas:</i> 38% cooking energy efficiency; idle rate 6,250–12,500 British thermal units/hour  Water Use Factor (for both electric and gas models): Tier 1A: ≤ 15 gal/hr  Tier 1B: ≤ 4 gal/hr	



## **National Efficiency Standards and Specifications for Residential and Commercial Water-Using Fixtures and Appliances**

### **Information/materials on EPA 2005/NAECA standards:**

Toilets and Faucets

[http://www.eere.energy.gov/buildings/appliance\\_standards/residential/pdfs/plmrul.pdf](http://www.eere.energy.gov/buildings/appliance_standards/residential/pdfs/plmrul.pdf) (Page 13317)

Schedule for development of appliance and commercial equipment efficiency standards:

[http://www.eere.energy.gov/buildings/appliance\\_standards/2006\\_schedule\\_setting.html](http://www.eere.energy.gov/buildings/appliance_standards/2006_schedule_setting.html)

Commercial Clothes Washers and Dishwashers (agenda/presentations at 4/27/06 DOE public meeting on rulemaking):

[http://www.eere.energy.gov/buildings/appliance\\_standards/residential/home\\_appl\\_mtg.html](http://www.eere.energy.gov/buildings/appliance_standards/residential/home_appl_mtg.html)

Automatic Commercial Ice Maker Standards:

[http://www.eere.energy.gov/buildings/appliance\\_standards/pdfs/epact2005\\_appliance\\_stds.pdf](http://www.eere.energy.gov/buildings/appliance_standards/pdfs/epact2005_appliance_stds.pdf) (Page 18)

Pre-rinse Spray Valves

[http://www.eere.energy.gov/buildings/appliance\\_standards/pdfs/epact2005\\_appliance\\_stds.pdf](http://www.eere.energy.gov/buildings/appliance_standards/pdfs/epact2005_appliance_stds.pdf) (Page 10)

### **Information/materials on WaterSense specifications:**

Toilets

<http://www.epa.gov/watersense/specs/het.htm>

Faucets

[http://www.epa.gov/watersense/specs/faucet\\_background.htm](http://www.epa.gov/watersense/specs/faucet_background.htm)

### **Information/materials on ENERGY STAR specifications:**

Clothes Washers

[http://www.energystar.gov/index.cfm?c=clotheswash.pr\\_crit\\_clothes\\_washers](http://www.energystar.gov/index.cfm?c=clotheswash.pr_crit_clothes_washers)

Residential Dishwashers

[http://www.energystar.gov/index.cfm?c=dishwash.pr\\_dishwashers](http://www.energystar.gov/index.cfm?c=dishwash.pr_dishwashers)

Commercial Dishwashers

[http://www.energystar.gov/index.cfm?c=new\\_specs.comm\\_dishwashers](http://www.energystar.gov/index.cfm?c=new_specs.comm_dishwashers)

Automatic Commercial Ice Makers

[http://www.energystar.gov/index.cfm?c=new\\_specs.ice\\_machines](http://www.energystar.gov/index.cfm?c=new_specs.ice_machines)

Pre-rinse Spray Valves

[http://www.energystar.gov/index.cfm?c=new\\_specs.spray\\_valves](http://www.energystar.gov/index.cfm?c=new_specs.spray_valves)

Commercial Steam Cookers

[http://www.energystar.gov/index.cfm?c=steamcookers.pr\\_steamcookers](http://www.energystar.gov/index.cfm?c=steamcookers.pr_steamcookers)

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### Information/materials on CEE specifications:

Residential Clothes Washers

<http://www.cee1.org/resid/seha/rwsh/rwsh-main.php3>

Residential Dishwashers

<http://www.cee1.org/resid/seha/dishw/dishw-main.php3>

Commercial, Family-Sized Clothes Washers

<http://www.cee1.org/com/cwsh/cwsh-main.php3>

Commercial Ice-Makers

<http://www.cee1.org/com/com-ref/ice-main.php3>; Spec Table: <http://www.cee1.org/com/com-kit/ice-specs.pdf>

Pre-rinse Spray Valves

<http://www.cee1.org/com/com-kit/prv-guides.pdf>

Commercial Steam Cookers

<http://www.cee1.org/com/com-kit/sc-hc-specs.pdf>